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Corning Pyrex® 7740 Borosilicate Glass

Subcategory: Ceramic; Glass; Optical; Oxide; Oxide, Silicon

Material Notes:
Pyrex® sheet provides unique chemical, thermal, mechanical, and optical properties. Available in thicknesses from 3/32 inches to 2.25 inches. Tempering increases temperature and pressure capability. Available as polished and machined glass wafers for use in the MST/MEMS (Micro Systems Technology/Micro-Electrical-Mechanical Systems) technologies. Also available in as powdered/crushed in mesh sizes 4 through 325 and is used for sealing and other applications.

Information provided by Corning Incorporated.

Physical Properties	Metric	English	Comments
Density	2.23 g/cc	0.0806 lb/in^3	
Mechanical Properties			
Hardness, Knoop	418	418	
Modulus of Elasticity	62.75 GPa	9100 ksi	
Poisson's Ratio	0.2	0.2	
Shear Modulus	26.1 GPa	3790 ksi	Calculated
Electrical Properties			
Volume Resistivity	1.2e+009 ohm-cm	1.2e+009 ohm-cm	350°C
Volume Resistivity	1.6e+011 ohm-cm	1.6e+011 ohm-cm	250°C
Dielectric Constant	4.1	4.1	1 MHz
Dissipation Factor	0.005	0.005	1 MHz
Thermal Properties			
CTE, linear 20°C	3.25 µm/m-°C	1.81 µin/in-°F	0-300°C
CTE, linear 250°C	3.25 µm/m-°C	1.81 µin/in-°F	0-300°C
Softening Point	821 °C	1510 °F	$10^{7.6}$ Poise
Working Point	1252 °C	2290 °F	10^4 Poise
Annealing Point	560 °C	1040 °F	10^{13} Poise
Strain Point	510 °C	950 °F	10^{14} Poise
Optical Properties			
Refractive Index	1.474	1.474	589.3 nm wavelength

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